FOCUSED SITE INSPECTION PRIORITIZATION
SITE EVALUATION REPORT

WASTELAND LANDFILL
2805 LOCKPORT ROAD
LOCKPORT, ILLINOIS

CERCLIS ID NO.: ILD980902258

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
SITE ASSESSMENT SECTION
77 West Jackson Boulevard
Chicago, Illinois 60604

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1. INTRODUCTION

The Ecology and Environment, Inc., (E & E) Technical Assistance Team (TAT) was assigned by the United States Environmental Protection Agency (U.S. EPA), under Contract No. 68-W0-0037, Technical Direction Document (TDD) No. T05-9503-250, to evaluate the Wasteland Landfill (WLF) site in Lockport, Will County, Illinois. E & E performed Focused Site Inspection Prioritization (FSIP) activities to determine whether, or to what extent, the site poses a threat to human health and the environment. This FSIP report presents the results of E & E's evaluation and summarizes the site conditions and targets pertinent to the migration and exposure pathways associated with the site. Background information was obtained from the E & E Field Investigation Team (FIT) Screening Site Inspection (SSI) Report, Preliminary Assessment (PA) Form (U.S. EPA Form No. 2070-12), and miscellaneous materials from the Illinois Environmental Protection Agency (IEPA) and U.S. EPA site files.

This report is organized into six sections, including this introduction. Section 2 describes the site and provides a brief site history. Section 3 provides information about previous investigations conducted at the site. Section 4 provides information about the four migration and exposure pathways (groundwater migration, surface water migration, soil exposure, and air migration). Section 5 is a summary of the FSIP. References used in the preparation of this report are listed in Section 6.

2. SITE DESCRIPTION AND HISTORY

The WLF site, formerly known as the Lockport Landfill, is located at 2805 Lockport Road, approximately 0.75 mile south of the city of Lockport and approximately 1 mile north of Forest Park, Will County, Illinois (NE1/4 sec. 34, T. 36 N., R. 10 E.) (see Figure 2-1). The coordinates of the site are latitude 41°34'15" north and longitude 88°04'45" west (IEPA 1984).

The site is a closed landfill comprising approximately 9.26 acres and operated as a landfill from 1976 through 1983. The central portion of the site's eastern boundary is adjacent to Lockport Road (U.S. Route 171), and the entire western boundary is adjacent to the Illinois Central Gulf (ICG) Railroad right-of-way. Streets running east to west in the vicinity of the site terminate at Lockport Road and thus do not cross the site. The approximate northern boundary of the site is Bruce Road, and the approximate southern boundary is Nobles Avenue (E & E 1991). See Figure 2-2 for site features.

The area surrounding the site is mixed residential and industrial. The Illinois and Michigan (I & M) Canal, the nearest surface water body, at its nearest point is located approximately 200 feet west of the site (E & E 1991).

A business building is situated on a small parcel of land on Lockport Road bordering the site's northeast boundary, near the intersection of Lockport Road and Bruce Road. A large industrial building is situated on a parcel of land on Lockport Road bordering the site's southeast boundary. A residence is also located on this parcel of land, near the intersection of Lockport Road and Nobles Avenue. A wire fence runs along the southeast boundary of the site. There is an entrance gate to the site on the southeastern site boundary near the industrial building. The central portion of the east boundary is also fenced; however, the fence is made of plywood and is rotting and barely standing in some areas (E & E 1991).

The site topography consists of a plateau that extends approximately 250 feet west of Lockport Road and then slopes sharply west, with a drop in elevation of approximately 50

feet. At the base of the slope is a drainage ditch that follows the site's western boundary along the railroad tracks (E & E 1991).

The plateau area appears to have been the principal area of landfill activity at the site. The plateau is unevenly vegetated and contains several bare patches. Some of these patches are covered with red and/or black cinders. Shredded metal and vinyl auto refuse, roofing panels, and rotted paper are exposed on the surface of others. There are two gullies on site, both of which lead downslope from the plateau to the drainage ditch. One of the gullies is in the northern portion of the site, immediately south of the business building. This gully was observed to be filled with refuse such as tires, old furniture, charred pieces of wood, and old 5-gallon metal cans. The second gully is near the central portion of the site and was observed to be filled with demolition material. Many areas of rotted paper were observed along the western slope between the two gullies, for a distance of approximately 600 feet (E & E 1991).

Leachate seeps have been observed at intermittent locations on the slope and at the base of the slope. At the southwest corner of the site, at the base of the slope, is a drainage pond which is surrounded by vegetation. This drainage pond is in the portion of the site that is west of the off-site industrial building (E & E 1991).

Complete information concerning current ownership of the WLF site is unknown. Wasteland, Inc., is an Illinois corporation, which incorporated on July 16, 1980. Its registered agent is Mr. Edward Knive, of 2805 Lockport Road, Lockport, Illinois. A transfer of the site's original operating permit, dated October 20, 1980, lists Mr. Vernon Lamoreaux as the owner of the site. From 1976 through 1980, the site was the location of an operation called the Lockport Landfill. The original operating permit (IEPA Permit No. 1976-13-OP) for the site's use as a landfill was issued by the IEPA on June 25, 1976, to operator Mr. Bruce Kazlauskus and landowner Mr. Vernon Lamoreaux. The permit provided for the disposal of bricks, concrete, pavement, glass, clay, tile, ceramics, cement, and other non-putrescible, non-combustible solid waste, excluding all flammable general refuse, all liquids, and any hazardous waste, unless authorized by a supplemental permit. A subsequent application for a permit to develop a solid waste management operation at the site states that the site was formerly an automobile junkyard (E & E 1991).

The original operating permit was reissued on August 12, 1977, with Mr. Charles Schopf named as operator. The permit was reissued to reflect a change in ownership. File information did not indicate the name of the owner during the period of 1977 through 1980 (E & E 1991).

Based on the site's history of permit and Chapter 7 violations of the Illinois Pollution Control Board (IPCB) Rules and Regulations (Title 35 of the Illinois Administrative Code),

and on Mr. Kazlauskus's poor operation of the site, the IEPA issued a closure order regarding the site on August 22, 1977. The violations were addressed in a 1978 complaint, IEPA v. Bruce Kazlauskus, Vernon Lamoreaux, and Charles Schopf, Order No. IPCB 78-92. The complaint cited violations of the permit and Chapter 7, specifically Rules 301, 302, 303, 305, 310, and 314 regarding compaction and cover of waste, and supervision and monitoring of operations, among other violations. However, the case resulting from the complaint was dismissed by the IPCB on April 26, 1979, upon a motion by IEPA, because of the inability to serve process upon (i.e., to contact) Mr. Kazlauskus and Mr. Lamoreaux (E & E 1991).

The site remained temporarily closed until Mr. Roger Pemble began operations at the site under the name Wasteland, Incorporated, in June-July 1980. The site was operated for approximately four months without a permit. The original operating permit was transferred to Wasteland, Inc., on October 20, 1980, with Mr. Vernon Lamoreaux named as the landowner (E & E 1991).

Another complaint, IEPA v. Wasteland, Inc., and Vernon Lamoreaux, was filed by the IEPA/IPCB in 1980. The complaint alleged that operators of the site had committed the following violations:

- Accepted flammable material in violation of its permit;
- Accepted refuse in violation of the volume limitations of its permit;
- Failed to provide adequate refuse cover;
- Failed to have sufficient supervision and personnel on hand to effectively operate the site;
- Disposed of refuse not allowed by its permit; and
- Operated the site for a period of time without a permit (E & E 1991).

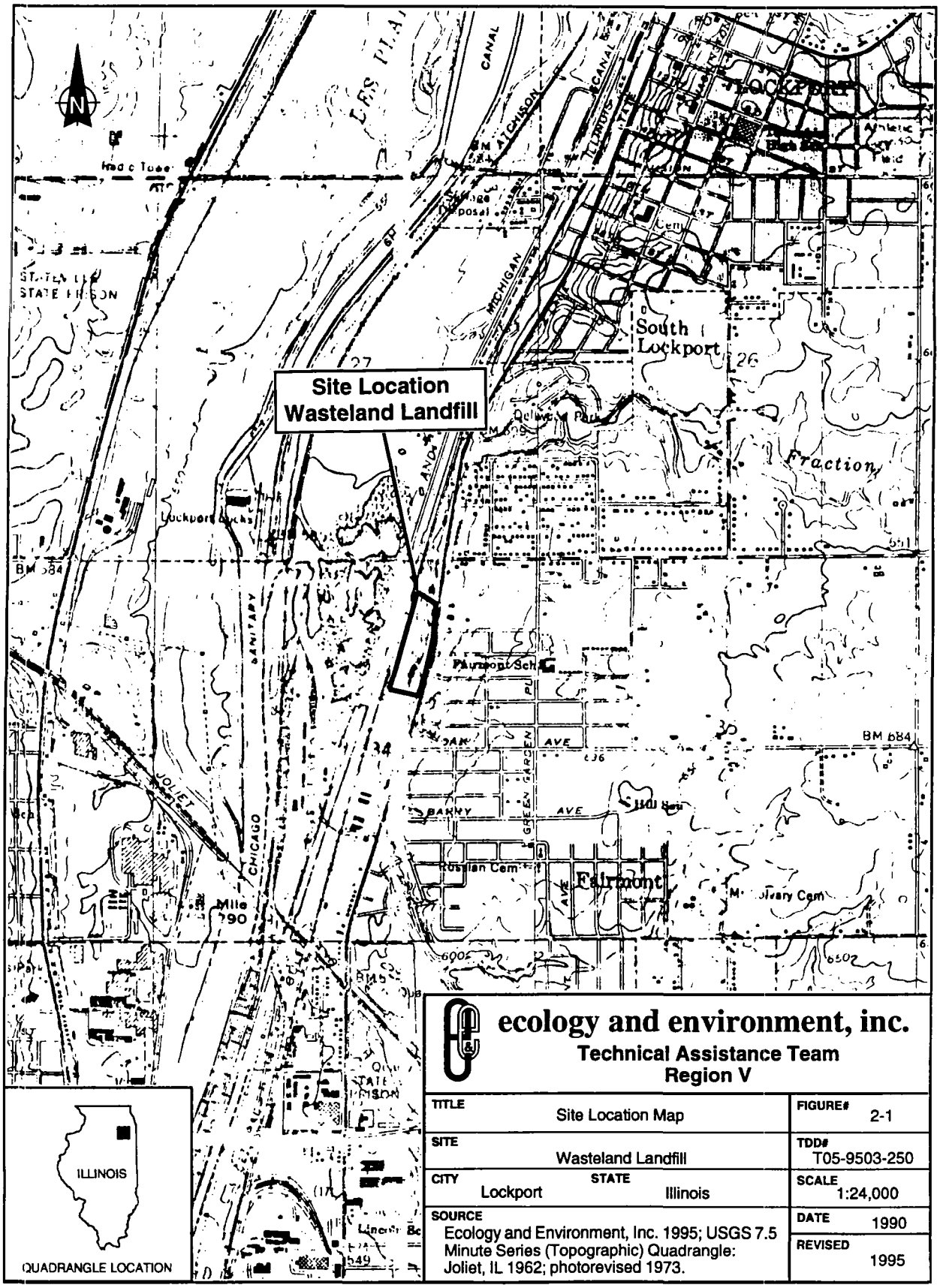
Several applications were submitted in 1981 for supplemental permits to accept wood and paper at the site; to increase daily volume of waste accepted at the site; to extend operating hours; and to revise storm water drainage requirements at the site. All applications were denied (E & E 1991).

In addition to the landfill operations, Mr. Vernon Lamoreaux and Mr. Roger Pemble (who was connected with Wasteland, Inc., and is believed to have been manager of daily operations and supervision of the site), applied to the IEPA for a permit to develop a solid waste recovery operation that would recycle paper products and possibly other materials on a

parcel of land immediately south of the landfill. In an IEPA memorandum dated December 1, 1980, regarding a site inspection, Mr. Pemble indicated that paper waste was being accepted at the site and that preparations were under way for the recycling operation. The application, dated December 10, 1980, was denied. On February 5, 1981, a large fire occurred at the location of the proposed recycling operation. Refuse from this fire was buried in the area of the proposed recycling operation, in violation of the permit and Chapter 7 of the IPCB Rules and Regulations (E & E 1991).

In a memorandum reporting the circumstances of the on-site fire, the IEPA investigation noted the presence of drums, many of them full, labeled as containing triethyl phosphate or methylene chloride. Drums from Insta-Foam Products, Inc., (Insta-Foam), were also noted. Labels on the drums indicated their contents to be either a polymeric methylene diphenyl diisocynate, considered a hazardous waste, or polyol materials. In a subsequent 1981 site inspection, Insta-Foam drums were observed to have been placed on skids, and two drums were inverted, leaking a viscous substance onto the ground (E & E 1991).

The WLF site closed in 1983. No waste removal or remediation activities are known to have taken place at the WLF site. The facility did not have Resource Conservation and Recovery Act (RCRA) or National Pollutant Discharge Elimination System (NPDES) permits.



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Region V

TITLE	Site Location Map	FIGURE#	2-1
SITE	Wasteland Landfill	TDD#	T05-9503-250
CITY	Lockport	STATE	Illinois
		SCALE	1:24,000
SOURCE	Ecology and Environment, Inc. 1995; USGS 7.5 Minute Series (Topographic) Quadrangle: Joliet, IL 1962; photorevised 1973.	DATE	1990
		REVISED	1995

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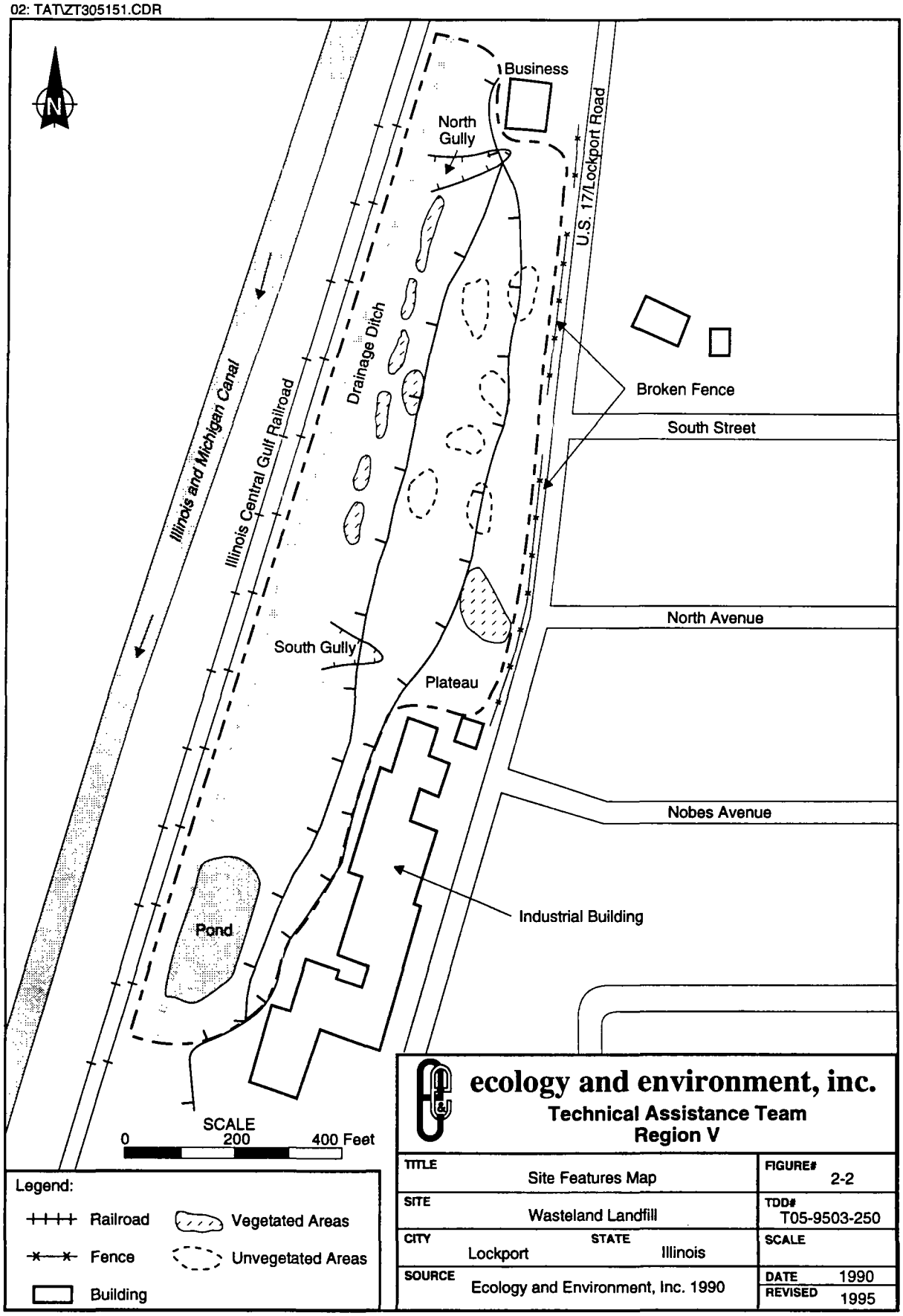

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TITLE	Site Features Map	FIGURE#	2-2
SITE	Wasteland Landfill	TDD#	T05-9503-250
CITY	Lockport	STATE Illinois	SCALE
SOURCE	Ecology and Environment, Inc. 1990	DATE	1990
		REVISED	1995

3. PREVIOUS INVESTIGATIONS

It is not known how the WLF site was originally identified. Numerous investigations had been conducted at the site by the IEPA between 1976 and 1985. Because of the site's history of violations of its permit and Title 35, Chapter 7, of the Illinois Administrative Code, and Mr. Kazlauskus's poor operation of the site, the IEPA issued a closure order for the site on August 22, 1977. However, the case resulting from the complaint was dismissed by IPCB on April 26, 1979, upon a motion by the IEPA, because of the inability to serve process upon Mr. Kazlauskus and Mr. Lamoreaux.

The site remained temporarily closed until Mr. Pemble began operations at the site under the name Wasteland, Inc., in June or July 1980. Soon afterward, Wasteland, Inc., and Vernon Lamoreaux, were named in a complaint filed by the IEPA with the IPCB. The complaint alleged that operators of the site had committed the following violations:

- Accepted flammable material in violation of its permit;
- Accepted refuse in violation of the volume limitations of its permit;
- Failed to provide adequate cover;
- Failed to have sufficient supervision and personnel on hand to effectively operate the site;
- Disposed of refuse not allowed by its permit; and
- Operated the site for a period of time without a permit (E & E 1991).

A 1981 IEPA memorandum reporting the circumstances of an on-site fire in 1981 noted the presence of drums, and a subsequent site inspection in that same year reported that some of these drums had been placed on skids. Two of the drums were inverted and, consequently, were leaking a viscous substance onto the ground. Other IEPA investigations at

the WLF site in 1981 indicated a number of violations, including leachate ponds and refuse, in the railroad right-of-way west of the site. Operators were also cited for accepting non-permitted refuse such as wood, cardboard, paper, and garbage; and for using processed, shredded auto refuse rather than clay as a cover material at the site. Operators were also cited for constructing a building to house a bailing operation despite denial of the facility's permit application for developing a paper recovery operation at the site. Reports of investigations in 1981 also noted a large number of flies on site and a rank odor of garbage (E & E 1991).

During another IEPA inspection of the site, bales of paper refuse intended for recycling were observed in ponded water, and oil was observed on the ground near an old oil tank. Reports of lights on site indicated that the site was operating at night, also in violation of the permit. Another IEPA inspection report indicates that pressurized metal containers of Froth-Pak, which contains polyamines and fluorocarbons, and shredded, inked paper from American Paper Recycling were found at the site in 1981. During an October 1981 IEPA inspection of the site, steam or smoke was noted emanating from a hole in the cover material on the west slope, at the north end of the site (E & E 1991).

In 1982, the IEPA continued its monitoring of the WLF site and conducted several investigations of the site. In an investigation conducted on April 15, 1982, a sign from the zoning board was observed on the door of an on-site trailer declaring the site a public nuisance. However, the site operations continued. At this time, leachate was found ponded in the railroad right-of-way, and leachate-stained material remained on site. The inspection also noted the deposition and spreading of refuse material and the use of red cinder material as a cover material. Following the inspection, a letter was sent from IEPA to Allied Paper Recycling, Inc., regarding violations of the WLF site. In a subsequent inspection, several areas of exposed and unexposed refuse were observed on site. Large numbers of flies were also noted in the fill area. A later observation report cited operators for acceptance of a 55-gallon drum that was half full and contained a black crystalline material (E & E 1991).

IEPA investigations of the WLF site continued in 1983. During one investigation, a paper/soil/cinder mixture and paper refuse were observed covering a portion of the north end of the site. In addition, there were many areas of ponded red or brown water (E & E 1991).

A subsequent investigation in 1983 reported smoke emanating from the northwest corner of the site and a small flame at the north end of the site (E & E 1991). In addition, leachate was observed in a drainage ditch on site. The drainage ditch enters a channel, which enters the I & M Canal south of the site. Sampling was conducted at the site from areas where leachate was observed. Results of these sample analyses were not available in files

reviewed by E & E Region 5 FIT. A later report in 1983 indicated that a concrete sewer pipe had been installed that ran from the southwest portion of the business building northeast of the site, west to the center of the west slope of the landfill (E & E 1991).

Regarding the remedial measures and permit actions to be taken at the site, IPCB ordered that Wasteland, Inc., obtain a permit to allow remedial monitoring measures to gather information regarding whether the waste already deposited at the site could remain at the site without harming the environment. IPCB subsequently ordered site operators to obtain a final closure permit, based on the information gathered during the term of the aforementioned monitoring permit. In their application for the closure permit, operators were requested to indicate the actions that they planned to take at the site in regard to the waste deposited there, to ensure protection of the environment. If they did not meet the conditions to obtain both permits, the site operators would then be obliged to remove the waste (E & E 1991).

A letter from the State of Illinois Attorney General's office was sent to Mr. Lawrence W. Eastep, Professional Engineering Manager at the IEPA Permit Section of the Division of Land Pollution Control (DLPC), concerning Mr. Pemble's request for a closure permit for the WLF and IEPA's denial of that request. An observation report from IEPA dated September 23, 1983, indicated that the site had been temporarily closed (E & E 1991).

In a 1984 IEPA investigation of the WLF site, samples were collected by the IEPA from various locations on site to determine the adequacy of a clay cover material. Records of sampling results were not included in files reviewed by E & E FIT. Monitoring of operations at the landfill revealed the continued existence of large areas of exposed refuse throughout the site (E & E 1991).

A PA report completed by Mr. Charles Gruntman of the IEPA/DLPC on May 23, 1984, based on a site visit on May 14, 1984, states that more non-permitted waste was accepted at the WLF site than permitted waste. One waste that was illegally accepted in large quantities was Pielet Brothers refuse consisting of shredded waste from old automobiles after the ferrous metal had been removed for recycling. This waste was spread over the entire site and used for "pre-cover" according to the site operator (IEPA 1984). An IEPA sample of the Pielet Brothers refuse collected at the site was found to contain polychlorinated biphenyls (PCBs) at concentrations of up to 66 milligrams per kilogram (mg/kg). In addition, Extract Procedure (EP) Toxicity lead was detected at levels up to 14.25 mg/L. This concentration is above Illinois maximum contaminant levels (MCLs).

Mr. Gruntman also made reference to the numerous fires at the WLF site throughout 1982 and 1983, including underground fires at the north and south ends of the landfill. He

added that there was no information in the IEPA files concerning what wastes went into the landfill from 1976 through 1980 (IEPA 1984).

Because residents in the area of the WLF site obtain drinking water from private wells, and no groundwater program was in existence, Mr. Gruntman rated the site a medium priority (IEPA 1984).

IEPA investigation activity at the WLF site in 1985 indicated that there were still large quantities of weather-deteriorated wastepaper on site. In the same investigation, seven leachate flows were observed on the western edge of the site, entering the drainage ditch located between the site and the railroad tracks west of the site (E & E 1991).

On August 30, 1989, E & E Region 5 FIT conducted an SSI of the WLF site, which consisted of a walk-through and observations, to aid in site characterization. During the SSI, E & E FIT collected three soil samples, five sediment samples, and one potential background sample. No groundwater or surface water samples were collected. Target Compound List (TCL) compounds and Target Analyte List (TAL) analytes were detected in all of the soil and sediment samples collected (E & E 1991). Results of the sample analyses are discussed in Section 4. See Appendix A for SSI sample analytical results. At the time of the E & E FIT SSI, there were no regulatory or enforcement actions being taken by federal or state agencies against the WLF site (E & E 1991).

4. MIGRATION AND EXPOSURE PATHWAYS

This section describes the four migration and exposure pathways associated with the WLF site. Section 4.1 discusses the groundwater migration pathway; Section 4.2 discusses the surface water migration pathway; Section 4.3 discusses the soil exposure pathway; and Section 4.4 discusses the air migration pathway.

4.1 GROUNDWATER MIGRATION PATHWAY

This section discusses regional geology and soils, groundwater releases, and targets associated with the groundwater migration pathway at the site.

4.1.1 Geology and Soils

The WLF site is located in Will County, where surficial glacial drift deposits vary in thickness from less than 1 foot along the Des Plaines and Kankakee rivers (where bedrock is intermittently exposed) to greater than 200 feet near the northeast border of the county. A preglacial bedrock valley northeast of the city of Joliet contains thick deposits of sand and gravel beneath the glacial deposits that occur throughout most of the county. Silurian dolomite occurs as the bedrock surface and is part of a hydrogeologic system present throughout northeastern Illinois. The Silurian dolomite is underlain by the Ordovician-age Maquoketa Group, which consists primarily of non-water-bearing shales that separate the Silurian aquifer from deeper water-bearing units. The Maquoketa Group ranges in thickness from less than 100 feet to greater than 250 feet and lies at depths of approximately 50 feet below ground surface (BGS) to more than 500 feet BGS. Generally, the Maquoketa Group is not relied upon as a source of large water supplies. However, water obtained from this unit is derived from cracks and crevices in the more dolomitic part of these rocks (E & E 1991).

Immediately underlying the Maquoketa Group is a thick sequence of hydrologically connected rocks that are referred to as the Cambrian-Ordovician aquifer system. In descending order, this aquifer system consists of the Galena and Platteville dolomitic groups,

Glenwood-St. Peter Sandstone, the Prairie du Chien Group, Eminence-Potosi dolomite, the Franconia formation, and the Ironton-Galesville Sandstone (E & E 1991).

Water from the Galena-Platteville dolomite is obtained from fractures within this unit. Underlying the Galena-Platteville dolomite is the Glenwood-St. Peter Sandstone. This dolomite and sandstone formation produces approximately 15% of the total potential yield from the Cambrian-Ordovician aquifer system (E & E 1991).

Beneath the Glenwood-St. Peter Sandstone formation lies the Prairie du Chien Group (Ordovician), Eminence-Potosi dolomite (Cambrian), and the Franconia Formation (Cambrian). The Franconia Formation consists of interbedded sandstones, shales, and dolomites. These three formations produce approximately 35% of the total yield from the Cambrian-Ordovician system. Underlying these formations in the sequence is the Ironton-Galesville Sandstone (Cambrian), which produces approximately 50% of the total yield of the Cambrian-Ordovician aquifer system (E & E 1991).

Beneath the Ironton-Galesville Sandstone is the Eau Claire formation and the Mt. Simon Sandstone formation. The upper and middle units of the Eau Claire formation contain many beds of non-water-bearing shale, which separate the Cambrian-Ordovician aquifer from the Elmhurst Sandstone member, the deeper Cambrian member (E & E 1991). The Elmhurst Sandstone and Mt. Simon Sandstone members are hydrogeologically connected and form the deepest fresh water aquifer in northern Illinois.

The aquifer under investigation in the area of the WLF site is the Silurian dolomite underlying the glacial deposits. However, the Maquoketa and the Cambrian-Ordovician aquifers are also potentially affected because the shale layers in the Maquoketa Group are permeable, thereby allowing possible seepage of potentially contaminated groundwater from the Silurian dolomite to the water contained in the Maquoketa cracks and crevices, from which it could migrate to the underlying Cambrian-Ordovician aquifer. Because the cities and towns of the area use water from either the Silurian dolomite, the Maquoketa Group, or the Cambrian-Ordovician aquifer, and the water is blended before distribution, all three water-bearing units are considered to be at a potential risk of a groundwater release from the WLF site (E & E 1991).

4.1.2 Groundwater Releases

The release of a hazardous substance from the WLF site to groundwater has not been documented. There are no monitoring wells on the site, and no known groundwater sample analysis exists for the WLF site. The soils at the site are relatively impermeable (E & E 1991); therefore, vertical migration of contaminants is unlikely. However, TCL compounds

and TAL analytes were detected in on-site soil and sediment samples at levels greater than background concentrations, and there are no engineered controls for groundwater release prevention. Evidence of on-site hazardous waste disposal and mismanagement exists.

4.1.3 Targets

The population potentially affected by a release of hazardous substances from the WLF site to groundwater are the approximately 100,000 persons who rely on groundwater drawn from within a 4-mile radius of the site as their drinking water supply. This population includes both private and public well users. The distance to the nearest private well is approximately 0.125 miles south of the site. Groundwater flow in the area of the site is to the west (E & E 1991).

The city of Lockport utilizes a municipal well system consisting of four wells, which serves approximately 3,500 people. Two of the wells are installed to approximately 1,500 to 1,600 feet BGS in the sandstone aquifer, and two of the wells are drilled to approximately 200 to 300 feet BGS. These wells are all located between 3 and 4 miles northeast of the site. All of the water drawn from these wells is chlorinated prior to its distribution, and the municipal well system is part of the IEPA program (Anderson 1995).

The city of Crest Hill, located approximately 1.25 miles west-southwest of the WLF site, has a municipal water system consisting of five wells. Three of the wells are installed at approximately 300 feet BGS, and the remaining two are installed at approximately 350 feet BGS. All of these wells are located within 4 miles of the WLF site. The Crest Hill Department of Public Works tests and treats their drinking water prior to its distribution and that they also are part of the IEPA program (Paul 1995).

The Joliet water supply consists of 15 operating municipal wells, all of which are drilled into the deep sandstone aquifer (Duffield 1995). These wells serve approximately 80,000 persons. At least nine of these wells are located within 3 miles of the site (E & E 1991).

The Ingalls Park subdivision, located approximately 3 miles southeast of the WLF site, uses two wells to serve its population. One well is open to the Silurian dolomite, the Maquoketa Group, and the Galena-Platteville dolomite, and is finished at a depth of approximately 640 feet BGS. The second well is open to the Silurian dolomite and is completed to approximately 305 feet BGS (E & E 1991).

4.2 SURFACE WATER MIGRATION PATHWAY

A release of hazardous substances from the WLF site to surface water has not been documented. No surface water samples are known to have been collected from the site area. However, two sediment samples, S5 and S6, were collected from the eastern bank of the I & M Canal during the E & E FIT SSI to determine whether TCL and TAL compounds were migrating from the site to the canal. See Figure 2-2 for sample locations. These samples were collected based on observations made during the SSI in which two on-site gullies appeared to drain into a drainage ditch that had previously been observed by the IEPA to flow into the canal. The I & M Canal, the surface water body closest to the site, is located approximately 200 feet west of the site. The canal flows approximately 1.75 miles south, where it joins with the Des Plaines River. The Des Plaines River is used recreationally. There are no known sensitive environments or surface water intakes located within 15 miles of the site.

Analytical results of the sediment samples collected from the I & M Canal are inconclusive. TCL compounds and TAL analytes were detected in both samples. However, the TCL compounds and TAL analytes detected in sediment sample S6 cannot be attributed to the site because the concentrations of compounds and analytes detected in background sediment sample S5 were similar (E & E 1991). See Appendix A for SSI sample analytical results.

A potential exists for a release to surface water because TCL compounds and TAL analytes were detected in on-site soil and sediment samples; there have been numerous reports of leachate flows on the site; the nature of the site's drainage pathway is toward the I & M Canal; the WLF site is located in the 100-year floodplain of the Des Plaines River; and there are no engineered controls on site to prevent surface water migration off site.

Bald eagles, a federally endangered species, are reported to winter in Will County (U.S. Department of the Interior [U.S. DOI] 1989), but there are no indications that this species has been impacted by the WLF site.

4.3 SOIL EXPOSURE PATHWAY

No incidents of soil exposure at the WLF have been documented. However, a potential exists for the public to come into contact with TCL compounds and TAL analytes at the site because TCL/TAL compounds were detected in on-site soil samples; the site is easily accessed; and a residence is located less than 200 feet from the site (E & E 1991).

On-site soil samples revealed levels of polycyclic aromatic hydrocarbons (PAHs), phthalates, PCBs, and metals at levels above background concentrations. These include:

toluene (3 micrograms per kilogram [μg/kg]), chloroform (1 μg/kg), naphthalene (200 μg/kg), 2-methylnaphthalene (350 μg/kg), dibenzofuran (110 μg/kg), fluorene (100 μg/kg), PCB Aroclor 1248 (850 μg/kg), PCB Aroclor 1254 (1,800 μg/kg), iron (74,600 mg/kg), lead (776 mg/kg), manganese (3,860 mg/kg), mercury (0.8 mg/kg), and zinc (2,840 mg/kg). See Appendix A for SSI sample analytical results. The landfill is not adequately covered, and areas of exposed wastes are reported. The cover material itself may be a source of contamination. IEPA inspections have discovered numerous violations, including leachate ponds and refuse in the ICG Railroad right-of-way, non-permitted wastes on site, oil ponded on the ground, and leaking drums. Numerous evidence of on-site hazardous waste disposal and mismanagement exist.

The population within 1 mile of the site potentially affected by an exposure to soil from the site is approximately 5,000 persons. The WLF site is inactive, and there are no workers employed at the site. Bald eagles may potentially come into contact with on-site soils because they are reported to winter in Will County. There are no other residences, schools, or daycare facilities located within 200 feet of the site (United States Geological Survey [USGS] 1962).

4.4 AIR MIGRATION PATHWAY

A release of hazardous substances from the WLF site to air has not been documented. E & E FIT did not collect any air samples or conduct any air monitoring during the SSI, and there are no records of complaints from nearby residents regarding odors emanating from the site. However, numerous underground and aboveground fires have been reported on the site, and IEPA has reported a rank odor of garbage emanating from the site. There is evidence of on-site hazardous waste disposal and mismanagement occurring at the site.

The site is currently inactive and there are no employees working at the site. No wetlands or sensitive environments are likely to be impacted by the WLF site, based on site conditions at the time of the SSI. The population within a 4-mile radius of the site potentially affected by a release of TCL/TAL compounds to air is approximately 100,000 persons (E & E 1991).

5. SUMMARY

The WLF site, formerly called the Lockport Landfill, is located at 2805 Lockport Road, approximately 0.75 mile south of the city of Lockport and approximately 1 mile north of Forest Park, Will County, Illinois. The site is an inactive landfill comprising approximately 9.26 acres. The site operated as a landfill under an IEPA permit from 1976 through 1983, with the exception of a 4-month period between June and October, 1980, while undergoing an operator change. The permit provided for the disposal of bricks, concrete, pavement, glass, clay, tile, ceramics, cement, and other non-putrescible, non-combustible solid waste, excluding all flammable general refuse, liquids, and hazardous wastes, unless authorized by a supplemental permit. It is believed that the site at that time was owned by Mr. Vernon Lamoreaux. Current ownership of the landfill property is uncertain. The site is situated in a mixed residential and industrial area.

Throughout the site's history, numerous inspections were performed by the IEPA in which violations of several permit and Chapter 7 of the IPCB Rules and Regulations were noted. In August 1977, the IEPA issued a closure order for the site; however, the case was dismissed by the IPCB in April 1979, due to IEPA's inability to serve process upon the site operator and land owner.

The site remained temporarily closed until Mr. Roger Pemble began operations at the site under the name Wasteland, Inc., in June-July 1980. Soon afterward, Wasteland Inc., and Mr. Vernon Lamoreaux were named in a complaint filed by the IEPA/IPCB. The complaint listed several violations against the site operators.

Later investigations and site inspections by the IEPA continued to turn up violations and concerns, including, but not limited to: underground and aboveground fires on site; leachate seeps observed on and off site; acceptance of non-permitted wastes; acceptance and storage of 55-gallon drums (some leaking); operating without a permit; landfill cover violations; and operating the site at night.

In 1983, IPCB ordered Wasteland, Inc., to obtain a permit to allow remedial monitoring measures to gather information regarding whether waste already deposited at the site could remain without harming the environment. At the same time, IPCB also ordered the site operators to obtain a final closure permit. If the site operators did not meet the conditions necessary to obtain these permits, they would then be obligated to remove the waste. The IEPA listed the site as temporarily closed in an observation report dated September 23, 1983.

In 1984, the IEPA conducted sampling of the WLF site, and levels of PCBs and EP Toxicity lead were detected. A PA report (IEPA May 1984) assigned the site a medium priority based on the local population using groundwater from the site area as their drinking water supply. On August 30, 1989, E & E Region 5 FIT conducted an SSI of the WLF site in which five sediment, three soil, and one potential background soil sample were collected. TCL compounds and TAL analytes were detected in all the samples collected. No groundwater or surface water samples were collected at that time, and no groundwater monitoring program was known to exist at the site.

Surficial deposits at the site vary in thickness from less than 1 foot to greater than 200 feet. This glacial drift overlies a Silurian dolomite bedrock surface, which overlies the Ordovician-age Maquoketa Group consisting primarily of shales. Immediately underlying the Maquoketa Group is a thick sequence of hydrologically connected rocks referred to as the Cambrian-Ordovician aquifer system. This system consists primarily of dolomite and sandstones.

Most residents in the site area rely on the Silurian dolomite for their drinking water supply. However, because the shale layers in the Maquoketa Group are pervious and the cities and towns of the area blend the water obtained from all three aquifers, all of the water-bearing units are considered to be at a potential risk of groundwater contamination.

The population potentially affected by a release of hazardous substances from the WLF site to groundwater are the approximately 100,000 persons who rely on groundwater drawn from a 4-mile radius of the site as their drinking water supply. This population includes both private and public well users, including the public groundwater supplies of the cities of Lockport, Crest Hill, and Joliet.

A release of hazardous substances from the WLF site to surface water has not been documented. No surface water samples were collected during the E & E FIT SSI, and the analytical results of sediment samples collected from the eastern bank of the I & M Canal are inconclusive because the concentrations of the upstream (background) sample and the downstream sample are similar. However, a potential exists for a release of hazardous substances from the WLF site to surface water. Drainage from the site is reported to

eventually flow into the I & M Canal, which at its closest point to the site is approximately 200 feet west. The I & M Canal discharges into the Des Plaines River approximately 1.75 miles south of the site. The Des Plaines River is used recreationally, and the WLF site is located in the 100-year floodplain of the river.

Bald eagles, a federally endangered species, are reported to winter in Will County, but there are no indications that this species has been impacted by the WLF site.

No incidents of soil exposure at the WLF have been documented. However, a potential exists for the public to come in contact with TCL compounds and TAL analytes detected at the site. The site is easily accessible due to unmaintained fences, and a residence is located less than 200 feet from the site.

The population within 1 mile of the site potentially affected by an exposure to soil from the site is approximately 5,000 persons. Bald eagles may come into contact with on-site soils because they are reported to winter in Will County. There are no other residences, schools, or day-care facilities located within 200 feet of the site.

A release of hazardous substances from the WLF site to air has not been documented. However, numerous underground and aboveground fires have been reported on the site, and a rank odor of garbage emanating from the site has been reported. There is evidence of on-site hazardous waste disposal and mismanagement occurring at the site.

Presently, the site is inactive and there are no employees working at the site. No wetlands or sensitive environments are likely to be impacted by the WLF site based on site conditions at the time of the SSI. The population within a 4-mile radius of the site potentially affected by a release of TCL compounds and TAL analytes to air is approximately 100,000 persons.

6. REFERENCES

References not included in Appendix B: documents that are currently available within U.S. EPA files; copyrighted documents that are currently available in E & E's library, maps produced by either the U.S. Geologic Survey of the Illinois State Geologic Survey; and documents that are created by various state agencies for public use.

Anderson, Bob, July 17, 1995, Lockport Department of Public Works, telephone conversation, contacted by Dennis Ross of E & E, Buffalo, New York.

Duffield, Dennis, July 14, 1995, Joliet Department of Public Works, telephone conversation, contacted by Dennis Ross of E & E, Buffalo, New York.

Ecology and Environment, Inc. (E & E), February 22, 1991, *Screening Site Inspection Report For Wasteland Landfill, U.S. EPA ID: ILD980902258*, prepared under TDD FO5-8908-018, Chicago, Illinois.

Illinois Environmental Protection Agency (IEPA), May 23, 1984, *Potential Hazardous Waste Site Preliminary Assessment, U.S.EPA ID: ILD980902258*, prepared by Charles Gruntman, IEPA/DLPC, Springfield, Illinois.

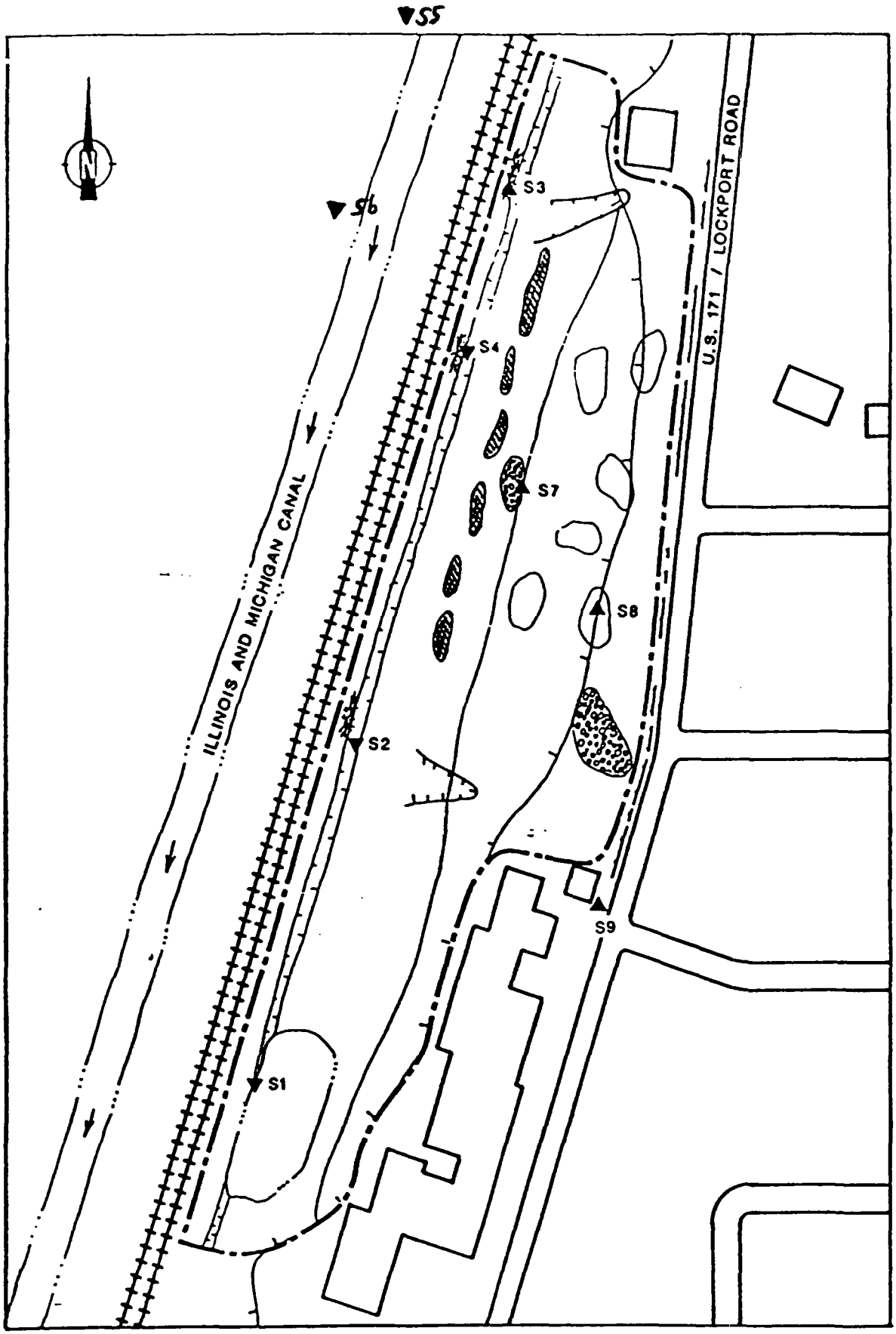
Paul, Jim, July 17, 1995, personal communication, Superintendent of Water and Wastewater, Crest Hill Department of Public Works, telephone conversation, contacted by Dennis Ross of Ecology and Environment, Inc., Buffalo, New York.

United States Department of the Interior (U.S. DOI), March 30, 1989, *Endangered Species Great Lakes Region*, U.S. Fish and Wildlife Service, Twin Cities, Minnesota.

United States Geological Survey (USGS), 1962, 7.5 minute series (topographic) quadrangle, Joliet, Illinois, photorevised 1973.

APPENDIX A

SSI SAMPLE ANALYTICAL RESULTS



SOURCE: Ecology and Environment, Inc. 1989.

SCALE

0 200 400 600 800 1000 FEET

LEGEND

▲ SOIL ▼ SEDIMENT

FIGURE 3-2 ON-SITE SOIL/SEDIMENT SAMPLING LOCATIONS

Table 4-1
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED SOIL/SEDIMENT SAMPLES

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9
Date	8/30/89	8/30/89	8/30/89	8/30/89	8/30/89	8/30/89	8/30/89	8/30/89	8/30/89
Time	1105	1115	1215	1230	1430	1500	1445	1500	1525
CLP Organic Traffic Report Number	EFT05	EFT06	EFT07	EFT08	EFT09	EFT10	EFT11	EFT12	EFT17
CLP Inorganic Traffic Report Number	MEFN21	MEFN22	MEFN23	MEFN24	MEFN25	MEFN25	MEFN26	MEFN27	MEFN28
Compound Detected (values in µg/kg)									
Volatile Organics									
methylene chloride	—	—	—	—	—	61B	—	—	—
chloroform	—	—	—	—	—	—	1J	—	—
toluene	—	—	3J	—	—	—	—	—	—
Semivolatile Organics									
naphthalene	—	—	200J	110J	—	150J	—	—	—
2-methylnaphthalene	—	120J	350J	120J	—	220J	—	—	98J
dibenzofuran	—	—	110J	—	—	—	—	—	—
fluorene	—	—	100J	—	—	—	—	—	—
phenanthrene	—	350J	1,300	1,000	440J	1,100	—	—	660J
anthracene	—	—	220J	210J	120J	200J	—	—	120J
di-n-butylphthalate	—	—	—	—	—	—	—	1,200J	—
fluoranthene	—	670J	1,700	1,300	1,700	1,300	—	—	1,100
pyrene	—	470J	1,600	1,300	1,100	1,900	—	1,000J	730J
butylbenzylphthalate	—	500J	—	610J	—	—	—	2,600J	—
benzo[a]anthracene	—	260J	690J	610J	560J	870J	—	—	420J
chrysene	—	360J	870J	680J	760J	1,100	—	—	590J
bis(2-ethylhexyl)phthalate	8,800	4,200	470J	4,800	230J	—	96J	190,000	200J
di-n-octylphthalate	—	300J	—	360J	—	—	—	5,500J	—
benzo[b]fluoranthene	—	320J	810J	530J	410J	1,200	—	—	490J
benzo[k]fluoranthene	—	360J	800J	540J	500J		—	—	600J
benzo[a]pyrene	—	260J	730J	530J	340J	1,000J	—	—	480J
indeno[1,2,3-cd]pyrene	—	240J	490J	360J	220J	740J	—	—	400J
benzo[g,h,i]perylene	—	230J	550J	450J	220J	1,000J	—	—	400J
Pesticides/PCBs									
delta BHC	—	—	—	—	150	—	—	—	—
Endosulfan sulfate	—	—	75	—	—	81	—	—	43
Aroclor 1248	—	310	—	420	—	—	—	850J	—
Aroclor 1254	—	720	—	710	—	—	—	1,800J	—
Analyte Detected (values in mg/kg)									
aluminum	16,100	10,300	11,700	13,400	3,810	11,900	8,950	10,600	9,460
antimony	—	—	—	—	—	—	—	9.9JNB	—
arsenic	13JN	9.8JN	7.6JN	4.2JN	4.7JN	7.6JN	6.8JN	10.6JN	7.7JN

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9
barium	136	185	137	209	44.1B	137	121	326	101
beryllium	0.92B	0.85B	1.1B	1.1B	0.51JB	1.0B	0.58JB	1.7	0.62JB
cadmium	—	3.7	2.0	3.4	2.1	2.5	1.1B	5.4	1.6
calcium	12,900	85,600	57,200	68,100	134,000	28,900	56,900	17,100	38,300
chromium	38.4JAN	32.9JAN	31.8JAN	27.1JAN	21.3JAN	48JAN	17JAN	33.4JAN	53.8JAN
cobalt	11.4B	11B	10.5B	14.7	6.3B	10.3B	9.9B	10.3B	10.8B
copper	34.2	183	40.3	110	18.4	105	40.6	251	38.7
iron	34,700	40,600	23,800	35,200	15,100	23,600	74,600	62,500	22,000
lead	25.8	229	95.5	187	30.2	236	40.5	776	142
magnesium	8,940	38,500	33,100	39,700	80,400	17,400	35,200	7,670	23,600
manganese	653	1,000	607	908	418	329	414	3,860	714
mercury	—	0.3	0.3	0.4	0.5	1.5	—	0.8	0.1
nickel	32.4JA	38.7JA	46.8JA	57.1JA	16.4JA	34.3JA	28.6JA	99.2JA	91.6JA
potassium	1,240B	1,810	1,730	3,100	796B	1,770	2,000	847B	1,840
selenium	—	0.35WJB	—	—	—	0.39JWB	—	—	—
silver	—	—	—	1.2JNB	—	—	—	—	—
sodium	—	—	—	1,700	—	—	—	—	—
vanadium	37	27.8	28.2	34.7	14B	25.3	26.1	40.5	25.3
zinc	68.9	633	165	741	57.6	349	122	2,840	127

— Not detected.

Table 4-1 (Cont.)

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
B	This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible/ probable blank contamination and warns the data user to take appropriate action.	Compound value may be semiquantitative if it is <5x the blank concentration (<10x the blank concentrations for common laboratory artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.
W	Post-digestion spike for furnace AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1990.

APPENDIX B

REFERENCE DOCUMENTS

ecology and environment, inc.
CHICAGO, ILLINOIS

TELEPHONE LOG

REFERENCE: Anderson, 1995

CONTACT	COMPANY or AGENCY	POSITION
Bob Anderson	Lockport Dept. of Public Works	

CONTACT ADDRESS	CONTACT PHONE NUMBER
	(815) 834-4260

E&E EMPLOYEE	DATE	TIME
Dennis Ross	7/17/95	0930

PROJECT NUMBER	SITE NAME and LOCATION
ZT3051 FIL0246 VAA	Wasteland Landfill, Lockport, W. Il Co., IL

DISCUSSION

I spoke with Mr. Anderson regarding Lockport's municipal well system and he informed me that presently they have 4 active wells: 2 at about 1500 - 1600' BGS and 2 at about 2-300' BGS. All water is chlorinated prior to distributing and they are part of the IEPA program. Mr. Anderson estimates the drinking population at 3,500 persons.

ecology and environment, inc.
CHICAGO, ILLINOIS

TELEPHONE LOG

REFERENCE: Duffield, 1995

CONTACT	COMPANY or AGENCY	POSITION
Dennis Duffield	Joliet Public Works	Director

CONTACT ADDRESS	CONTACT PHONE NUMBER
921 East Washington, Joliet, IL	(815) 740-2372

E&E EMPLOYEE	DATE	TIME
Dennis Ross	7/14/95	1000

PROJECT NUMBER	SITE NAME and LOCATION
ZT3051 EIL0246 VAA	Wasteland Landfill, Lockport, Will Co., IL

DISCUSSION

I spoke to Mr. Duffield about Joliet's municipal water supply and he informed me that presently they have 15 wells operating. 3 of these wells are located within 4 miles of the site. All of the wells are drilled into the deep sandstone aquifer and more rely on local recharge. He estimates the drinking water population at 80,000 persons. He also added that he is aware of a private well at Industry Ave. that he estimates to be 7 1/4 - 1/2 mile from the site.

ecology and environment, inc.
CHICAGO, ILLINOIS

TELEPHONE LOG

REFERENCE: Paul, 1995

CONTACT	COMPANY or AGENCY	POSITION
Jim Paul	Crest Hill Dept. of Public Works	Superintendent of Water and Waste W

CONTACT ADDRESS	CONTACT PHONE NUMBER
1610 Plainfield Rd, Crestfield, IL 60433	(815) 729-9564

E&E EMPLOYEE	DATE	TIME
Dennis Ross	7/17/95	0900

PROJECT NUMBER	SITE NAME and LOCATION
2T3051 EILO246VAA	Wasteland Landfill, Lockport, Will Co., IL

DISCUSSION

I spoke w/ Mr. Paul regarding Crest Hill's municipal well system. He informed me that they presently have 5 wells operating. 2 of these wells are approx. 350' BGS and are located ~ 3/4 mile from the site. Another well approx 300' BGS is located about 1 mile west of these. Another well ~300' BGS is located ~ 1/2 mile north of the previously mentioned well and the 5th well (~300' BGS) is ~~approx. 1/4 mile away from the site~~ at Plainfield Rd. at the western boundary of Crest Hill.

He informed me that all drinking water is tested and treated prior to distribution and that they are part of the IEPA program.